

NURSING TREATMENT OF INFANTILE DIARRHŒA

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THE subject of infantile diarrhœa would seem at first thought to be a simple matter; but the more study and observation are given to it, the more apparent becomes the comprehensive nature of the disease. So many causes and so many different methods of treatment are discovered, that finally the conclusion is reached that each infant having diarrhœa is a case by itself, and that the treatment must be largely determined by the symptoms and progress of each particular case. Careful attention should be given an infant who is only mildly afflicted, as the disease frequently develops rapidly into one of the more serious forms.

Diarrhœa most often occurs in artificially-fed infants, as it is easy for bacteria in impure milk to enter the digestive tract; most of the cases are between the ages of six and eighteen months. It is especially prevalent among the poorer classes in large cities, but many cases also occur in the country, being due often to impure milk or to carelessness in preparing the food. In cities there are the added unfavorable conditions of bad air, unclean tenements, crowded conditions, and hot weather. Heat increases liability to diarrhœa, and the infant mortality during the summer months in our cities is appalling, the estimates being that nearly three times as many infants die during July and August as during any other two months in the year.

Much is being done to relieve these conditions. A change of air is one of the first things to be recommended, but this is not always easy to accomplish. Many of our hospitals have roof-gardens, where the babies are much benefited by the sunshine and fresher air. A change from the hot impure air of the tenement-house districts even to the city parks, or a daily trip on the water, will often effect wonders. The floating hospitals of the different cities are doing much to meet this need of sea air, and as usually no charge is made, they are accessible to the poorest classes. The Boston Floating Hospital is a decided improvement over most of the others in that, besides having one deck for babies who are not seriously affected, it provides permanent wards for those who are too ill to be carried to and from their homes each day. In these wards the utmost is done to prevent the development and spread

of different bacterial diseases. The nurses wear different aprons inside the wards, and the greatest care is taken in disinfecting the hands before preparing the food or feeding the babies. Great care is taken not to infect the other patients; and because a baby who has recovered from one attack of diarrhoea can be reinfected, each case is discharged as soon as possible. These babies often look very thin and pale when discharged as cured, but they soon begin to improve, and it is much safer to let them go than to expose them to reinfection.

Diarrhoea is usually caused by nervous conditions, bacteria, or some foreign substance which cannot be disposed of in the ordinary process of digestion. The exciting cause should in every case be combated and removed. If it is a cause which acts on the nervous system, as improper food, heat, cold, excitement, or fright, a simple diarrhoea is the result, and usually a change of climate, the withholding of food for a day, and some medicine to check the number of dejections will remedy the trouble. If, however, bacteria are the cause, the problem is more complex. Bacteria are always found in stools, even of healthy infants; but in diarrhoeal stools they multiply enormously. They are always introduced into the intestinal tract through the food. As yet no specific form of bacteria has been found to be constant in diarrhoea, but much attention is being given to microscopical examination of feces. These bacteria or their products produce changes in the intestines varying from irritations to deep lesions.

If a drug could be introduced which would kill the bacteria without injuring the baby, and if a food could be found which would nourish the baby without also nourishing the bacteria, one problem would be solved,—but as it is we can only make use of something which will arrest the growth of the bacteria. Thus irrigations of soda, salt solution, creolin, or boracic acid solution are given with good effect. This irrigation takes place after a cathartic has been administered to clear the intestines, and after lavage, if the stomach is not empty. In regard to feeding, experience shows that a baby can be practically starved for twenty-four or forty-eight hours, thus depriving the bacteria of nourishment, while the baby lives on its tissues. With the use of plenty of water the lack of food is not minded so much.

After this period a very weak form of food is started, such as rice-water, barley-water, whey, or weak broths; then, if this form is tolerated, a greatly modified milk may be tried. As the baby improves, care should be taken not to increase the strength of the food too fast, holding to one formula longer than would ordinarily be done. The bottles and nipples should be sterilized between feedings; but the milk need not be

pasteurized or sterilized, if it is certain that the supply is pure, but the water added to it should be boiled, and the other ingredients pure. In all cases where it is possible, the mother should be taught the proper way to prepare the food, to care for the baby, and most important of all, measures of prophylaxis.

When the baby is unable, on account of excessive or persistent vomiting, to retain food given by the mouth, nasal, œsophageal, or rectal feeding must be resorted to, and the nurse should have on hand all the necessary appliances, sterilizing them before using. Hypodermic injections are given in cases of excessive vomiting, prostration, or heart failure. Stimulation is usually not resorted to except when absolutely necessary, as the heart muscle after responding to repeated stimulation, will fail to do so at the crucial point.

As to the question of clothing, light warm garments are the best, and flannel best meets this description. A flannel nightgown is usually enough for warm weather, but on very cold days, or if the baby has poor circulation, a flannel sacque may be added. A blanket under and over the baby and hot-water bag for the feet will aid in keeping it warm. Great care must be taken by the nurse in using the hot-water bag or can; as a baby who is wasted by disease is much more easily burned than one would think. Therefore it is best to have only a warm bag, and change it frequently.

As may be easily seen, a great deal depends on the nursing given these cases. Such constant attention is needed, that in an institution like the Boston Floating Hospital, one nurse can take care of only four babies. In private cases, the nurses should have everything at hand in readiness for an emergency,—as the appliances for lavage and gavage, hypodermic injections, subcutaneous injections of sterile salt solution, irrigations, and for controlling convulsions.

The bed-linen and the clothes which the baby wears should be soaked in a disinfectant solution before being laundered, and the diapers should be burned immediately after changing. They are best made of some cheap or old material. Old soft linen with cotton placed inside is good, and oiled or paraffine paper inside the cloth will protect the bed. The diapers should be changed at once, as soon as they are soiled, for the dejections are highly irritating to a baby's skin, and a raw and even bleeding surface is too often the result of improper care. The nurse should scrub her hands well and disinfect them after changing the diapers and before feeding-time. This is for her own protection as well as that of the baby. The nurse should also be ready to give a hot or a cold pack, in cases of prostration or of hyperpyrexia. In cholera

infantum, especially, much depends on the prompt action of the nurse, as the progress of the disease is so rapid,—the child often dying in twelve hours or less from the time of onset of the disease.

The nurse's notes and observations as written on the bedside chart are of the greatest assistance to the doctor, and guided by her accuracy in describing the symptoms and phenomena of the disease, he can more easily make a diagnosis and locate the part of the digestive tract which is involved. The dejections, expression of the face, position, motions, color of the skin, manner and amount of sleeping, character of the cry, and many other details are of more importance than they would at first appear to be to the inexperienced observer.

The dejections should receive the nurse's particular attention, and her description in the notes should include the number in twenty-four hours, the size of each, the consistency, whether watery, or semi-solid, the color and odor, and the presence of abnormal or foreign substances.

The color is varied. Green and bright blue always indicate an abnormal change in bile, sometimes caused by putrefaction going on in the intestines. Clay-color or white show the lack of bile, or the presence of undigested fat. Black usually means that a drug has been given, as bismuth or iron, but old blood may account for the color.

When the odor of the dejection is sour, it shows that changes in the sugars have taken place; and a foul odor indicates changes in the proteids. Abnormal substances are usually mucus, blood, pus, or undigested food, and sometimes a foreign substance which has been swallowed. Irrigations will often bring to light the most remarkable substances—as pickles, baked beans, and various foods which the baby's stomach can only reject without attempting to digest. The parents nearly always solemnly assert that milk has been the only food given. In this connection, every doctor and nurse caring for these cases, should do all in his or her power to instruct mothers in the simplest principles of cleanliness in preparing food and in caring for babies. This is a slow and usually a discouraging process, but many make use of the methods which have been demonstrated to them, and the results are more far-reaching than we realize.

